ADMINISTRATIVE-INTERNAL USE ONLY

22 FEB 1985

STAT

NOTE FOR:

FROM: Executive Director

SUBJECT: Suggestions Regarding Quality and The Reward System

Thank you for your suggestions regarding quality and the reward system. Your dedication to the concept of top quality work and excellence in general is in keeping with the finest traditions of our Agency.

As I understand your suggestion about the reward system, you believe that employees need to be told early, clearly, and often what the Agency's mission and their place in it is, and what is expected from them, how they should accomplish their tasks, and what should and should not be done if we are to do our work well. You indicate -- and rightfully so -- that preventing ourselves and others from making costly errors should be considered a valuable positive contribution and rewarded as such.

I agree with the thrust of your argument. You are in effect, calling for more and better communications about our mission, goals, objectives, and the pitfalls to be avoided in pursuing them.

Your suggestion concerning quality science is harder to deal with on an Agency level. The articles you forwarded pertain to the manufacturing process in which tangible widgets of one kind or another are turned out in greater or lesser numbers at lower or higher degrees of perfection. Returns, scrap, cost per item, and customer share of the market are all quantifiable and easily identified factors of the equation in the business examples dealt with in the articles. Assembly line production problems, however, are the exception rather than the rule in the Agency, although a high degree of concern with quality is certainly one of our principal driving forces.

In a sense, the excellence initiative taken by the Director is our own form of the quality program you advocate. The contributions of all employees in our own search of excellence -- as exemplified by your having taken the time and effort to outline your suggestions for us -- are, in the long run, what will bring continued improvement in our product. To borrow a phrase from your paper, I believe each of us should be his or her own quality guru and share the thoughts and ideas that will help us accomplish our mission effectively. I appreciate the fact that you have done so.

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0-102

6 February 1985

To : Director of Central Intelligence

STAT From : [redacted] DDS&T/OTS [redacted]
room 212 South Bldg.

Subject : Suggestions

Reference : DCI memo of 28 November 1984

Attachments : A) above reference
B) article from Industry Week
C) article from Quality Progress

In response to your memo (referenced above), I submit two suggestions regarding quality and the reward system.

The intent is to make our man-hours more effective, to improve timeliness and productivity by improving quality.

Thank you for asking my opinion and leading our pursuit of excellence.

STAT [redacted]

5-102

THE REWARD SYSTEM

This is the basic reason why things work right as well as why things don't work right.

We are rewarded for quantity, quality and timeliness within our own narrow purview. However, we are not rewarded for serving extra consideration outside our narrow purview. In other words, people appreciate it when someone pulls the fat out of the fire (it smokes and smells). But people don't notice when someone prevents fat in the fire in the first place.

Modern organizations suffer from neglect of long-term considerations. The system rewards quick-fix at the expense of long-term solution. You know the negative effect this has on U.S. business and industry. Putting out fires at a construction site does not expand GNP. Preventing fires at the construction site allows GNP to grow.

Therefore, I suggest that we add one more item to the reward system -- prevention. In other words, I suggest that all AWPs direct, and that all PARs access the extra consideration of making it easy for our co-workers to do things right the first time, but hard to err.

For example, managers and workers alike should be motivated to:

1. write or illustrate procedures and post them where appropriate,
2. collect and propagate practical information from both internal and external sources,
3. execute formal indoctrination and on-the-job training beginning on the first day of one's new assignment, not months or years later, e.g., video tapes of the organizational mission at each level from Director down to the respective Branch, practical technical guidance, lessons from history (flaps), etc. In other words, paraphrasing Steven Jobs of Apple Computers, "Excellent people share a common objective, a common value system. Their leader should articulate that commonality." Why not tell everyone? Why wait for a flap? Therefore, I recommend that new people receive immediate formal indoctrination and formal O-J-T regarding what we are paid for and what we stand for.

4. etc. (add your favorite prevention techniques here),
   A)
   B)
   C)

Why bother with adding prevention to the reward system? Don't people render these extra considerations naturally? No, because if we don't see it, hear it, smell it or feel it occasionally, we don't bother, particularly if we don't gain anything for the extra trouble. Look at where we would be today in areas of public health, transportation safety, fire codes, etc. if people were not paid to work on prevention in these areas. Notice how the quality of life has improved through prevention. Look at countries that don't bother with these things.

Prevention does occur naturally in some small way through the efforts of a minority. Therefore, with the intent of multiplying excellence, those individual fortuitous acts of prevention, I suggest that everyone's AWP and PAR have acts of prevention added to them -- ways of helping co-workers and enhancing the rest of the organization to do it right the first time.

QUALITY

Attachments B and C are two articles that illustrate how CEOs are using quality science to strengthen their organization for business competition. I have highlighted and turned to the last pages for your convenience. Two points are:

1. trouble is caused by the system, not by the people working within that system,
2. the CEO at Signetics has identified what his organization stands for in terms of quality, and he propagates that ethic.

That´s what´s going on in business and industry. The quality sciences also serve DOD and other large government organizations. Do you find any way we can benefit by an organization-wide quality policy? Working at the grass roots level of the quality business, I have to consume resources on classical cases, e.g., myopia, narrow purviews, disregard for the original purpose (the mission), the push for short-term fixes at the expense of long-term gains, why bother?, etc. Thus, I have learned the futility of working without total commitment of the entire managerial hierarchy. As references B and C explain, verbal support is not sufficient.

Our Branch Chiefs and Division Chiefs are very capable leaders, using traditional tools (PERT, MBO, stick & carrot, etc.). But they are merely laborers in the vineyard, lacking instruments of organization-wide quality policy and a finely tuned reward system.

I admire and respect your leadership in the pursuit of excellence that you broadcast several months ago. I regret that I was not alert to your call for suggestions at that time. Had I been, here´s what I would have recommended:

Select your quality guru and attend his quality college. Then, appoint your VP for quality, send your managerial hierarchy to that same school and implement that guru´s quality process.

I could recommend the big names in the profession (Deming, Juran, Crosby, Feiganbaum and Shainin), but these people probably would not want to work with the encumbrances of government.

If you are unfamiliar with quality science, you ask -- What's all this stuff about quality and gurus?

From a business/industrial perspective, quality is the science of variability, dedicated to helping operators of repetitive processes (banking, manufacturing, insurance, transportation, etc.) keep up with the competition. After an organization finds out how to operate a process successfully, the quality scientists can recommend statistical techniques to repeat that operation successfully, many times again at lowest cost (by minimizing scrap and rework), as well as provide a stable basis for further improvement (pursue excellence).

But, these scientific things come with a price -- long term managerial commitment, organization-wide. One cannot expect the manufacturing division to get with the quality process when the marketing and support divisions refuse to come aboard. The short term focus of the modern American reward system discourages quick adoption of new things by prudent managers. Thus, the learning experience shared by the CEO of Signetics (Attachment C) emphasizes managerial commitment.

Therefore, I suggest that you talk to the above highly regarded individuals and ask them to recommend a consultant who can advise us on getting our processes into statistical control. Why? So we can see <u>scientifically</u> where they are satisfactory, where they can be improved, and where they excel.

I don't know how much of our business is amenable to modern quality techniques; but I'm confident that there are <u>reputable</u> consultants who do know. I emphasize reputable, because the use of statistics demands credibility. As you know, figures lie and liars figure.

These consultants are told everywhere they go, "Oh, we're special. That quality stuff don't apply to us." Then the consultants demonstrate that the so-called unique and special activities are composed of a series of repetitive processes, amenable to statistical techniques.

So, you ask, what could one of these guys do for us?
After studying our business, they would recommend:

A) compiling certain records,

B) using that data to plot the flow of our processes in a statistical manner (so we can see their condition, whether they are in or out of statistical control),

C) suggesting managerial action for those processes not in statistical control (e.g., reward, retraining, reassignment, etc. of responsible personnel),

D) suggesting managerial action for those processes already in statistical control:

   a) exercise prevention -- use recommended action to prevent those processes from falling out of control,

   b) pursue excellence -- use the stability of that process as a base to launch improvement.

But statistical techniques don't accomplish anything alone. They require long term managerial commitment working within a responsive system. Success depends on management and the environment (the system we work in). The consultants can advise us but not bring it off. It has to happen on fertile ground. Look at the turn-around in the quality of Japanese goods during the past twenty years.

In summary, I suggest that you commit our organization to the quality effort -- select your quality guru, go to his quality college, appoint a high level executive as Director of Quality (someone with the quality attitude who can get things done), send all of the managerial hierarchy to quality college, and then periodically remind us about our quality commitment.

Why bother? Competition. Keeping ahead of KGB, UPI, DIA, CBS, etc., necessitates quality goods and quality services. These things are not luxuries. They cost less because they come from a more productive process (minimal scrap and rework) where 100% inspection is not necessary because the output of such a process is predictable (in statistical control). In other words -- things were done right the first time.

In conclusion, I suggest that you include quality science in our pursuit of excellence.

Central Intelligence Agency

Washington, D.C. 20505

28 November 1984

MEMORANDUM FOR ALL EMPLOYEES

SUBJECT: Creative Problem Solving

1. The intelligence problems the Agency faces continue to grow in number and complexity. Responding to these varied challenges puts a premium on our ability to develop a continuing stream of innovative solutions. We can use all the good ideas we can get, and it is crucial that we be prepared to act quickly on the most promising. This means that we do not subject occasional flashes of inspiration to bureaucratic red tape and endless levels of review before they reach the appropriate decisionmaker. I have, therefore, established a top-level forum in the Agency for reviewing and reacting to new ideas concerning ways to accomplish our mission better. It consists of the Deputy Director of Central Intelligence, the Executive Director, and myself. I invite each of you with ideas for new or better ways to respond to critical intelligence problems -- including improvements in the collection, production, or dissemination of intelligence or to the way we are organized to do our job -- to send them directly to one of the three of us. We will decide in short order on the merit and feasibility of such proposals and, if appropriate, arrange to implement them rapidly.

2. CIA already participates in two other programs designed to take maximum advantage of employee expertise and imagination. The Agency's cash awards program, administered by the Office of Personnel, recognizes suggestions and special accomplishments that result in savings to the Government. The Community-wide Production Enhancement Initiatives program, managed by the Intelligence Producers Council, explores potentially useful, but longer-term, initiative to improve the intelligence production process. I hope that by supplementing these formal programs with the informal one described above, we will be able to initiate some innovative short-term projects providing immediate intelligence payoff.

3. I urge you to share your ideas with us on how the Agency may do its job better. You are, after all, the ones who meet the challenges of Agency business head on every day and are, therefore, the best source of new concepts for solving pressing intelligence problems.

William J. Casey

William J. Casey
Director of Central Intelligence

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the compelling evidence will be H. B. Fuller's investment in retraining executives and middle managers—to convince them that quality is part of their job. "We've already scheduled 14 executives to attend 2½-day sessions at the Quality College, followed by 30 middle managers who will take in the full five-day sessions." The company budgeted $150,000 this year for this educational effort.

H. B. Fuller is building its program on the premise that management is responsible for 80% of the quality problems. "If management looks to employees before cleaning up its own house—or instead of cleaning up its own house—then employees will cynically wonder why the company is only interested in the 20% of the quality problem that is within [the employees'] control," Mr. Odom says.

That's another way of saying that most production problems are caused by the *system*, not by the worker. And it is why many quality-control experts, including Dr. Deming, are wary of the recent proliferation of quality circles in the U. S. Dr. Deming suspects that quality circles are sometimes initiated as a substitute for an overall quality program.

Where do quality circles fit in? Raymond Wachniak, director of corporate quality assurance at Firestone Tire & Rubber Co., Akron, views them simply as one element of a company-wide program. "Japan's quality success," he points out, "was already 17 years old when quality circles came into being."

By the numbers. And where does statistical control come in?

"It provides a road map that directs the attention of management to what is wrong," explains William E. Conway, chairman and president of Nashua Corp., Nashua, N. H., which brought in Dr. Deming to help set up a total quality-control program. "It doesn't solve problems," Mr. Conway advises, "but it identifies where the problems are and points . . . toward a solution. It provides data that allow managers and workers to make decisions based on facts, rather than on speculation."

Nashua is convinced that *management-directed* quality efforts will achieve 90% of the results, whereas quality-circle-type programs will yield only 10%. But the company does involve the employees. For example, it challenges them to practice "imagineering"—imagining what things would be like "if everything went right," explains William J. Kelly, coordinator of the quality program.

Triple benefit. At Nashua, statistical analysis led to a major cost savings, as well has higher productivity, in one carbonless paper-coating operation. Management was aware that the amount of coating material being used was high, but it wasn't sure how to reduce it and still produce a consistently high-quality product. The purchase of a new $700,000 coating head was being considered as a possible solution.

DR. J. M. JURAN—"The quality of U. S.-made products . . . has not deteriorated. It simply has not improved as fast in the U. S. as it has in Japan"

But management decided to give statistics a try, beginning with the testing of samples and plotting "run" charts, which plot data chronologically to indicate trends and variation in magnitude. Also, through meetings with the chemical supplier, variations in the viscosity of the coating material were minimized. And, rather than make frequent quality-related adjustments to the equipment, it was decided to let the coating operation run without interruption.

The experiment showed that the amount of coating could be reduced and yet keep product variations within an acceptable level. By reducing the average amount of coating from 3.6 lb to 2.7 lb per 3,000 sq ft of paper, material costs have since been sliced by $900,000 a year. Meanwhile, the plant has avoided the expense of a new $700,000 coating head. And, finally, because fewer quality-related adjustments to the coating machinery are now being made, the speed—and, hence, the capacity—of the equipment has been boosted by 25%.

It took seven months to conduct the study and implement the corrective actions, Mr. Conway points out. "There was tremendous opposition to the study and its conclusions by various technical, quality-control, and management personnel," he says. But the results have borne out the value of statistical analysis. "The entire program, from start to finish, will bring the coating operation from being in a relatively noncompetitive position . . . into a very competitive position," Mr. Conway declares.

Prognosis. In 1961, in his book, *Total Quality Control: Engineering & Management*, Dr. Feigenbaum emphasized "making it right the first time." Unfortunately, some American businessmen have learned that lesson secondhand—from the Japanese.

"If we make it right the first time," says S. John Cole, vice president of quality and development at Earnest Machine Products Co., Cleveland, "it will be an important step in transferring [day-to-day] quality responsibility to where it belongs—in the hands of the worker. Once the [operational] responsibility is there, production workers must also be given the authority to interrupt production to correct quality problems."

If this succeeds, Mr. Cole predicts the emergence of a new, expanded role for quality-control professionals in industry.

"Breaking out of the compartment that has grown up around the traditional function of quality control has become the big challenge for quality professionals," acknowledges Mr. Maas, ASQC's president.

It is not a new problem, he admits. "Years ago, when I first joined ASQC, my boss at Lockheed gave me some advice: 'The trouble with you guys is that you only talk to each other,' he said. 'You've got to start talking to management.'

"Now that management is ready to listen," Mr. Maas adds, "our challenge is to learn to talk to general management in terms they understand."

ASQC's first major effort to encourage communication with top management was the formation of a National Advisory Council for Quality, a prestigious group of leaders representing business, labor, government, industry, and consumer interests. Its first project was a conference, held this last April in Washington, for CEOs and other executives whose career portfolios don't include a formal emphasis on quality. The conference stressed the critical role that quality can play in increasing productivity.

It's a start. And, in the long run, efforts like this one may prove to be as significant to the U. S. as Dr. Deming's 1950 visit was to Japan. ■

In October 1982 we faced an important decision. Our corporate quality program manager left our company to join a company that was just starting up. Our profits were nonexistent. We debated whether to replace the program manager, and decided it was important to the program and a signal to the company that we meant what we said. We appointed one of our senior product engineering managers to the job.

In December 1982, the first issue of our corporate quality publication was produced. By then, over 20 bootleg—but officially encouraged—quality newsletters were being published by various groups. All exempt employes had gone through our two-day quality college—over 2,000 people by the end of 1982.

In April 1983 we had our first QIT Recognition Day. We gave out awards to key performers. The program was now moving broadly across the company. There were many spontaneous groups being formed, like ZD teams and a few quality circles. Department slogans appeared. By September of 1983 massive corrective-action programs had begun. All employes signed a pledge to work toward zero defects. Each QIT held a ZD day. A quality college for nonexempt employes was started.

The program was now four years old. We still had open issues. For example, some people still were not comfortable with the cost of quality measurement, and we had differences of opinion on the application of quality measures in the administrative area. But the program had become part of us.

In December 1983 we had an off-site staff meeting and, like almost everybody else I know, we took a look at ourselves in light of Peters' and Waterman's book, *In Search of Excellence*.[3] The book stresses the importance of having a superordinate goal. It was a quick and unanimous decision that quality was our superordinate goal. We selected the phrase, "People Committed to Quality." And you can change that phrase from the plural to the singular: "I am committed to zero defects."

When people ask me what Signetics does, I say that we make integrated circuits for our customers, with special emphasis on new products. They then say, "Yes, I know, but what is important to you, what do you stand for?" I then say, "What we stand for is 'People Commited to Quality.' . . . and that starts with me." Five years after starting we have really just laid the quality foundation. More hard work lies ahead—and more opportunities.

References

1. Philip B. Crosby, *Quality is Free*, New York: McGraw-Hill, 1979.
2. Ibid.
3. Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence*, New York: Harper & Row, 1982.

About the Author

Charles C. Harwood is President of Signetics Corp. He started his career as a shift foreman for Corning Glass Works and by 1970 worked his way up to President of Signetics, then a subsidiary of Corning Glass Works. Harwood remained as President after Signetics was sold to U.S. Philips Corp.

Harwood completed his undergraduate work at Harvard University. He also received an MBA from Harvard.